

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

Commercial Fish Ponds

(Acres)

Code 397

DEFINITION

A small body of water established to produce food fish, bait fish, crayfish, shrimp, or other fish products for commercial purposes.

PURPOSES

To provide water for growing and harvesting fish crops.

CONDITIONS WHERE PRACTICE APPLIES

On land where soil conditions, water resources, and topography are suitable for construction a pond or a reservoir.

CRITERIA

A. Water Quality and Supply

1. A dependable source of good quality water in addition to surface runoff is essential to replenish ponds after drawdown and harvest, to avoid oxygen depletion, and to replace evaporation losses. Water from wells, springs, storage reservoirs, or private lakes may be used.
2. Aerate water from wells by splashing or spraying before entering the pond to remove harmful gasses and add oxygen.
3. Water from storage reservoirs or private lakes must be filtered to exclude wild fish.

4. Protect pond from livestock.

5. Avoid surface water pollution by locating ponds in watersheds protected from excessive erosion and where insecticides or herbicides are not likely to be used or where there is little or no danger from barn lots, feedlots, or similar areas unless such drainage is diverted from the ponds.

B. Pond Construction

1. **Size.** Size of the pond can vary to fit the needs and desires of the fish farmer

2. **Depth.** The pond bottom shall slope uniformly to permit complete drainage. Minimum depth will be 3 feet in the shallow end and 5 feet in the deeper end except that ponds used to winterover fish must meet minimum depth requirements in Standards and Specifications for Ponds (378).

3. **Type of Pond.** Levied, embankment, or excavated ponds are all acceptable depending on the site.

4. Design.

- a. Levees will be constructed according to Standards and Specifications for Dikes, Class II (356). Top width will be a minimum of 10 feet to facilitate maintenance and harvest. Side slopes will be 3:1 on the water side and 2:1 or flatter on the land side.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

- b. Embankment and excavated ponds will be built according to Standards and Specifications for Ponds (378) except that minimum standards for depth and size will not necessarily apply. (See B. 1. And B. 2. above.)
- c. Ponds and impounded areas behind levees will be constructed with a smoothly graded bottom - free of stumps, snags, or pockets. This will facilitate seining.
- d. A harvest pit 1 to 2 feet deeper than the bottom of the pond and covering approximately 10 percent of the pond area will be constructed. This pit will be located in the deepest part of the pond and will serve as a collection area for fish when the pond is drained. If all fish in the pond are to be confined in floating cages, this specification will not be required.
- e. Ponds will not be located in sites subject to flooding unless they can be protected by levees or other means.
- f. The pond must be equipped with a bottom drain device capable of draining it completely in as short a time as feasible. Turn-down or swivel standpipes are acceptable where depth does not exceed 5 feet. The drain must be screened to prevent escape of fish. A pumping system of adequate size, when available, will meet this requirement.

CONSIDERATIONS

Planning considerations for water quantity and quality.

Water Quantity

1. Effects on the water budget, with emphasis on effects on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation and ground water recharge.

2. Effects on the volume of downstream flow or aquifers that might cause undesirable environmental, social, or economic effects.

Water Quality

1. Effects on erosion and the movement of sediment, organics, and soluble and sediment-attached substances.
2. Effects on the visual quality of water resources.
3. Short-term and construction-related effects on the water resources.
4. Effects on the temperature of water discharged.
5. Effects on the movement of dissolved substances below the root zone and toward ground water.
6. Potential for redistributing toxic materials during earth moving.

PLANS AND SPECIFICATIONS

Where possible, emergency spillways should be designed so that water depth will not exceed 6 inches in a 10 year storm frequency to help prevent escape of fish.

A weir or overfall located on exit slope of the emergency spillway will keep undesirable fish from entering the pond.

Bank erosion from wave action can be minimized by aligning the long axis of ponds at right angles to prevailing winds.

Arrangement of ponds so that each can be managed independently facilitates harvest and prevention of parasites and disease.

Wells are the safest source of water. Water from lakes may introduce parasites, disease, or wild fish.

A drain device that will drain water from the bottom of the pond will aid in removing unoxygenated water and wastes.

Fish farmers should be aware that commercial fishponds are a potential source of pollution. Excreta, unused food, chemicals, antibiotics, and offal from fish cleaning operations are all possible pollutants. Waters discharged from ponds should be managed in such a way as to

minimize the entry of pollutants into streams. In some cases, settling basins or other means may be needed to enable the owner to comply with existing pollution control standards.

OPERATION AND MAINTENANCE

A maintenance program shall be established by the landowner/user to maintain the commercial fish pond(s).

